

LISTING OF CLAIMS

Claim 1. (Previously presented) A method for preparing a sintered structural steel part with a carbon content of about from 0.1% up to 2% by weight, comprising:

pressing an agglomerated spherical soft iron-based powder containing about from 0.5% to 2% by weight of a thermo-reversible hydrocolloid as a binder to a green body of high density,

heating the green body to a temperature of about 450-650°C under a controlled atmosphere to remove the non-carbon content of the binder, and

then sintering the green body at a temperature of about 1100-1400°C to allow the remaining carbon to diffuse homogeneously into the sintered body, giving structural parts of high density and having high strength properties.

Claim 2. (Original) A method according to claim 1, characterised in that the hydrocolloid is gelatin.

Claim 3. (Previously presented) A method according to claim 1, characterised in that the agglomerated powder in addition comprises fine-grained graphite powder.

Claim 4. (Previously presented) A method according to claim 1, characterised in that the heating at 450-650°C takes place under a protective atmosphere to prevent oxidation.

Claim 5. (Previously presented) A method according to claim 1, characterised in that the heating at 450-650°C takes place under an atmosphere which allows part of the carbon to be removed.

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Claim 6. (Previously presented) Structural steel part of high density and high strength, characterised in being prepared by a method according to claim 1.

Claim 7. (Presently presented) The method according to claim 1, wherein said method prepares a sintered structural steel part with a carbon content of more than about 0.4% by weight.

Claim 8. (Previously presented) The method according to claim 3, wherein said method prepares a sintered structural steel part with a carbon content of more than about 0.5% by weight.

Claim 9. (Previously presented) The method according to claim 1, wherein said method prepares a sintered structural steel part with a carbon content of more than about 1.45% by weight.

Claim 10. (Previously presented) The method according to claim 1, wherein said method prepares a sintered structural steel part with a carbon content of about 0.4% to 2% by weight.

Claim 11. (Previously presented) The method according to claim 3, wherein said method prepares a sintered structural steel part with a carbon content of more than about 1.45% by weight.

Claim 12. (Previously presented) The method according to claim 3, wherein said method prepares a sintered structural steel part with a carbon content of about 0.4% to 2% by weight.

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Claim 13. (Previously presented) A method for making a high strength steel part from a soft iron-based powder, comprising:

mixing a soft iron-based powder with a thermo-reversible hydrocolloid binder into an agglomerated powder, said hydrocolloid binder acting as a means to add carbon to the powder,

pressing said agglomerated powder to a green body,

heating the green body to a temperature of about 450-650°C under a protective atmosphere that prevents oxidation to remove the non-carbon content of the binder substantially, and

sintering the green body at a temperature of about 1100-1400°C to create a structural part of high strength.

Claim 14. (Previously presented) The method according to claim 13, wherein said protective atmosphere enables removal of the non-carbon content substantially without removal of the carbon content.

Claim 15. (Previously presented) The method according to claim 14, wherein said method prepares a steel part with a carbon content of more than about 0.4% by weight.

Claim 16. (Previously presented) The method according to claim 14, wherein said method prepares a steel part with a carbon content of more than about 0.5% by weight.

Claim 17. (Previously presented) The method according to claim 14, wherein said method prepares a steel part with a carbon content of more than about 1.45% by

weight.

Claim 18. (Previously presented) The method according to claim 1, wherein said method prepares a steel part with a carbon content of about 0.4% to 2% by weight.

Claim 19. (Previously presented) A method for making a high strength steel part by simple pressing and sintering of metal powder, comprising:

mixing an agglomerated powder having a soft iron-based powder and a binder that acts as a means to add carbon to the powder,

pressing said agglomerated powder to a green body,

heating the green body under a protective atmosphere that prevents oxidation to remove the non-carbon content of the binder substantially without removal of carbon content, and

sintering the green body to create a structural part of high strength.

Claim 20. (Previously presented) The method according to claim 19, wherein said method prepares a steel part with a carbon content of about .4% to 2% by weight.